AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph which extends from page 1, line 16, to page 1, line 18, to read as follows:

As ~~a~~ semiconductor devices have become smaller ~~becomes minute~~ in recent years, capacitance between wiring lines in the semiconductor device is increased, and ~~a~~ signal delays caused by the increased capacitance have become ~~by this becomes~~ an important problem.

Please amend the paragraph which extends from page 1, line 23, to page 2, line 8, to read as follows:

However, the film quality of the low dielectric constant film is apt to change when it is exposed to plasma of ashing or the like. In the case where a resist pattern formed to perform a hole etching or the like on an interlayer insulating film made of a low dielectric constant film is removed by ~~an~~ ashing, Si-H bonding or $Si-CH_3$ bonding in the film as a source to reduce the dielectric constant of the interlayer insulating film is cut during the ashing, and Si-OH bonding is generated at that portion. By such change in the film quality, the dielectric constant is raised, and the hole resistance is raised, and further, an increase in wiring capacitance and a signal delay are caused, thereby deteriorating the performance of the device.

Please amend the paragraph which extends from page 2, line 9, to page 2, line 11, to read as follows:

~~Then, there~~ There are various methods for suppressing the increase of the dielectric constant due to the ashing treatment in the interlayer insulating film.

Please amend the paragraph which extends from page 2, line 12, to page 2, line 17, to read as follows:

For example, Japanese Patent Laid-Open No. 2000-77410 proposes a method in which ~~a~~ pressure in the ashing is controlled to be within a suitable range and an ashing mainly using ions is performed in a single wafer processing type ashing apparatus, in the case where a resist mask formed on a low dielectric constant film is removed by ashing.

Please amend the paragraph which extends from page 2, line 18, to page 2, line 21, to read as follows:

~~Besides,~~ Japanese Patent Laid-Open No. 87332/1999 proposes a method in which even if Si-H bonding or Si-CH_3 bonding is cut during an O_2 ashing, it is successively exposed to H_2 plasma, so that the cut Si-H bonding is restored.

Please amend the paragraph which extends from page 2, line 22, to page 3, line 2, to read as follows:

However, in the ashing method which mainly uses ~~using~~ pressure control, since there is an upper limit in ionization energy control, there is a case where necessary ionization energy can not be obtained by the pressure control~~, and according to the kind of the~~. In the case of a low dielectric constant film, ~~there is a case where~~ the increase of the dielectric constant can not be sufficiently suppressed.

Please amend the paragraph which extends from page 3, line 3, to page 3, line 5, to read as follows:

~~Besides, in~~ In the method of exposure to the H_2 plasma after the O_2 ashing, since the step of exposure to the H_2 plasma is added, a treatment time is prolonged, and manufacturing cost is increased.

Please amend the paragraph which extends from page 4, line 14, to page 5, line 1, to read as follows:

~~As a substrate used in the method of the invention, all~~ All substrates normally used for manufacturing semiconductor devices can be utilized in the methods of the invention ~~listed~~, and a glass substrate, a plastic substrate, a semiconductor substrate, a semiconductor wafer and the like can be utilized ~~enumerated~~. Specifically, various substrates such as an element semiconductor (silicon, germanium, etc.) substrate, a compound semiconductor (GaAs, ZnSe, silicon germanium, etc.) substrate, a substrate of SOI, SOS or the like, an element semiconductor wafer (silicon, etc.), a quartz substrate, a plastic (polyethylene, polystylene, polyimide, etc.) substrate and the like can be utilized ~~enumerated~~. Incidentally, an element such as a transistor, a capacitor or a resistor, a circuit including these, an interlayer insulating film, a wiring layer and the like may be formed on the substrate.

Please amend the paragraph which extends from page 5, line 2, to page 5, line 13, to read as follows:

Any ~~As an~~ insulating film typically utilized as an interlayer insulating film can be formed on the substrate, ~~what are normally formed as interlayer insulating films can be enumerated, and~~ especially ~~, a~~ low dielectric constant films ~~is preferable~~. Here, a ~~the~~ low dielectric constant film is a film having a dielectric constant of, for example, about 3.5 or less. For example, a silicon nitride film; or an SiO_2 film, films containing Si, O and F, films containing Si, O and C or films containing C and F formed by a CVD method;

inorganic HSQ (hydrogen silsesquioxane) films, MSQ (methly silsesquioxane) films, PAE (polyarylene ether) films, BCB films, porous films; or films containing C and F formed by coating or the like can be utilized ~~enumerated~~. The thickness of the insulating film is not particularly limited, and a thickness of about 4000 to 10000 Å can be given as an example.

Please amend the paragraph which extends from page 5, line 14, to page 5, line 24, to read as follows:

The resist mask can include ~~includes~~ all forms ~~formed~~ of resist normally used in the field of a semiconductor process. For ~~, and for~~ example, masks of various resists, such as negative type resist (cyclized cis-1, 4-polyisoprene, polyvinyl cinnamate, etc.), positive type resist (novolak system) for an electron beam or X rays; far-ultraviolet (deep-UV) resist (polymethyl metacrylate, t-Boc system); and resist for an ion beam, can be utilized ~~enumerated~~. Specifically, acetal resist (TDUR-P015), aniling (TMX-1191Y), hybrid resist (SPR550) and the like can be enumerated. The thickness of the resist mask is not particularly limited, and for example, a thickness of about 7000 to 9000 Å can be given as an example.

Please amend the paragraph which extends from page 5, line 25, to page 6, line 25, to read as follows:

~~An ashing apparatus which can be used for the~~ The present invention is not particularly limited to any type of ashing apparatus, and ashing apparatuses which have ~~as long as it has~~ been commonly used are suitable. As long as RF power can be applied to make an introduced gas active or preferably plasma, and RF power can be applied to a substrate to be etched, ashing apparatuses of various shapes and principles, such as a cylindrical type, a parallel flat plate type, a hexode type, an effective magnetic field RIE

type, an effective magnetic field microwave type, a microwave type and an ECR type, can be utlized ~~enumerated~~. Specifically, as shown in FIG. 1, an ashing apparatus is given as an example, which includes at least a vacuum chamber 5, a lower electrode 3 formed at a lower position in the vacuum chamber 5, a power source 2 capable of applying RF electric power for activating a gas at the side of the vacuum chamber, and a power source 6 capable of applying RF electric power to a substrate. Incidentally, in such an apparatus, an upper electrode may be formed at an outer circumference of the vacuum chamber, or a coil (electromagnetic coil, etc.) for plasma generation may be arranged. It is preferable that the power source capable of applying the RF electric power for activating the gas is connected to only the vacuum chamber or the vacuum chamber and the upper electrode or the coil or the like. Moreover ~~Besides~~, it is preferable that the lower electrode ~~is~~ be provided with a mechanism for holding the substrate, and further, it is preferable that the lower electrode be ~~is~~ provided with a mechanism for controlling the temperature of the substrate. It is preferable that the power source capable of applying the RF electric power to the substrate be ~~is~~ connected to the lower electrode.

Please amend the paragraph which extends from page 7, line 17, to page 7, line 24, to read as follows:

~~Besides, the~~ The RF electric power applied to the side of the substrate is preferably applied to the substrate through the lower electrode for holding the substrate, and in view of the kind, amount, speed of the foregoing introduced gas, the applied RF electric power for activating the gas introduced in the chamber and the like, it is appropriate that the RF electric power be ~~is~~ about 150 W or higher, about 200 W or higher, about 250 W or higher, or in the range of about 250 to 450 W.

Please amend the paragraph which extends from page 7, line 25, to page 8, line 8,

to read as follows:

~~In the invention, it~~ It is preferable that the ratio (Ws/Wb) of the RF electric power (Ws) for activating the oxygen-containing gas to the RF electric power (Wb) applied to the wafer is controlled to be a predetermined value or lower, for example, it is appropriate that the ratio is about 5 or less, about 4 or less, or in the range of about 0.22 to 4. From another viewpoint, it is preferable that the ratio Ws/Wb is set so that the change rate of the dielectric constant of the insulating film before and after ashing is about 10 % or less, about 8 % or less, or 5 % or less.

Please amend the paragraph which extends from page 8, line 16, to page 8, line 24, to read as follows:

Incidentally, ~~in the invention,~~ it is preferable that the substrate be ~~is~~ held by the lower electrode as described above, and it is preferable that the temperature of the lower electrode during the ashing be ~~is~~ about 50°C or lower, about 35°C or lower, about 25°C or lower, or about 20°C or lower. ~~Incidentally~~ Further, ~~with respect to the substrate temperature, for example,~~ when the temperature of the lower electrode holding the substrate is set to the above temperature, the temperature of the substrate itself can be substantially set to a value in the neighborhood of the temperature, as an example.

Please amend the paragraph which extends from page 9, line 2, to page 9, line 10, to read as follows:

~~In the ashing method of this embodiment, the~~ The ashing apparatus shown in FIG. 1 can be ~~was~~ used for an example embodiment for implementing the method. This ashing apparatus comprises ~~is mainly constituted by~~ a vacuum chamber 5 provided with a

plasma generating coil 1 on its outer circumference, a lower electrode 3 formed at a lower position in the vacuum chamber 5, a power source 2 for applying voltage to the plasma generating coil 1 and the vacuum chamber 5, a power source 6 for applying voltage to the lower electrode 3 and a chiller 7 for controlling the temperature of the lower electrode 3. A wafer 4 to be etched is held on the lower electrode 3.

Please amend the paragraph which extends from page 10, line 17, to page 10, line 22, to read as follows:

In other words ~~wards~~, oxygen ions can be easily drawn to the substrate by application of the RF electric power to the substrate, and by that, an SiO film is formed on the surface of the interlayer insulating film, and it is conceivable that this film functions as a protection film to suppress the change in the film quality of the interlayer insulating film.

Please amend the paragraph which extends from page 10, line 23, to page 11, line 6, to read as follows:

~~Besides,~~ Moreover, a change in the dielectric constant of the interlayer insulating film was measured in the case where the conditions were set to be the same as the above except that the temperature of the lower electrode was 20°C, the plasma generating RF power of the power source 2 was 1000 W or 100 W, and the RF power of the power source 6 for controlling the ion drawing energy to the wafer was 100 to 450 W. The results are shown in FIG. 3. In FIG. 3, a black dot indicates a result when the plasma generating RF power of the power source 2 was 1000 W, and a black square indicates a result when it was 100 W.